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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* WILLIAM L. BLACK and STEVEN J. MARIAN

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Appeal 2008-0891  
Application 10/679,180  
Technology Center 2800

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Decided: June 30, 2008

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Before KENNETH W. HAIRSTON, JOHN A. JEFFERY, and R. EUGENE  
VARNDELL, JR., *Administrative Patent Judges*.

VARNDELL, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejections of claims 1-19 and 21. We have jurisdiction under 35 U.S.C. § 6(b). We REVERSE.

### STATUS OF CLAIMS

Claims 1-19 and 21 are on appeal. The Office Action Summary of the Final Rejection mailed on August 3, 2006 included claim 20 in the rejected claims. However, claim 20 is not included in any rejection in the Final Rejection. Appellants note the lack of any detailed rejection of claim 20 and assume that claim 20 includes allowable subject matter in the Status of Claims section of the Brief (Br. 2). The Examiner's Answer does not comment specifically on the status of claim 20. However, the Examiner's Answer states that Appellants' statement of the Status of Claims in the Appeal Brief is correct (Ans. 2). For the purposes of this opinion, we assume that claim 20 is not included in any rejection in the Final Rejection, and, therefore, not on appeal.

### RELATED APPLICATION

The Examiner relies on copending Application 10/649,074 filed on August 26, 2003 in a provisional double patenting rejection under § 101 of the claims 1-11, 13-19, and 21 on appeal. The copending application is also on appeal (Appeal No. 2008-0652).

### STATEMENT OF THE CASE

Appellants' invention relates to an interconnect for a location dependent device, such as deployed on an automobile. The interconnect comprises a bus adapted to provide a bus signal to the location dependent device and a plurality of electrical contacts external to the location dependent device. The plurality of contacts is capable of providing a signal

indicative of a physical location of the location dependent device when the location dependent device is installed.<sup>1</sup>

The Examiner relies on the following prior art references to show unpatentability:

Card	US 5,576,698	Nov. 19, 1996
Takagi	US 6,441,748 B1	Aug. 27, 2002
Rafert	US 6,497,659 B1	Dec. 24, 2002

The issues raised on appeal are:

1. Did the Examiner err in provisionally rejecting claims 1-11, 13-19, and 21 under 35 U.S.C § 101 as claiming the same invention as that of claims 1-14 and 18-25 of copending Application 10/649,074? This issue turns on the interpretation of the expressions “location dependent device” in the claims on appeal and the “attitude control device” in the claims of the copending Application, and whether these expressions define identical subject matter within the meaning of 35 U.S.C § 101.
2. Did the Examiner err in rejecting claims 1 and 8-12 under 35 U.S.C. § 102(e) as being anticipated by Rafert? This issue turns on whether Rafert teaches all structural elements recited in the claims on appeal within the meaning of 35 U.S.C. § 102(e).
3. Did the Examiner err in rejecting claims 1, 13, and 21 under 35 U.S.C. § 102(b) as being anticipated by Takagi? This issue turns on whether Takagi teaches all structural elements recited in the claims on appeal within the meaning of 35 U.S.C. § 102(b).

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<sup>1</sup> See generally Spec. 1-4.

4. Did the Examiner err in rejecting claims 1-6, 8, 11, 13, 14, and 17-19 under 35 U.S.C. § 102(b) as being anticipated by Card? This issue turns on whether Card teaches all structural elements recited in the claims on appeal within the meaning of 35 U.S.C. § 102(b).
5. Did the Examiner err in rejecting claims 4 and 5 under 35 U.S.C. § 103(a) as being unpatentable over Card? This issue turns on whether the Examiner has established a *prima facie* case of obviousness for the claims on appeal within the meaning of 35 U.S.C. § 103(a) based on the teachings of Card.

For clarity, we reproduce independent claim 1 on appeal and independent claim 1 of the copending Application as follows. The differences between the claims are italicized for emphasis.

Application 10/679,180 On Appeal

1. An interconnect for a *location dependent* device, comprising:
  - at least one bus adapted to provide at least one bus signal to the *location dependent* device; and
  - a plurality of electrical contacts external to the *location dependent* device and capable of providing a signal indicative of a physical location of the *location dependent* device when the *location dependent* device is installed.

Copending Application 10/649,074

1. An interconnect for an *attitude control* device, comprising:
  - at least one bus adapted to provide at least one bus signal to the *attitude control* device; and
  - a plurality of electrical contacts external to the *attitude control* device and capable of providing a signal indicative of a physical location of the *attitude control* device when the *attitude control* device is installed.

Rather than repeat the arguments of Appellants or the Examiner, we refer to the Appeal Brief filed on October 23, 2006 and the Examiner's Answer mailed on February 2, 2007 for their respective details. In this decision, we have considered only those arguments actually made by

Appellants. Arguments which Appellants could have made but did not make in the Brief have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

## OPINION

### *Claim Construction*

At the onset, we construe claim 1 based on the Specification and Appellants' arguments. We look to the Specification of the present application to construe the meanings of the terms "location dependent device" and "attitude control device." *Phillips v. AWH Corp.* 415 F.3d 1303, 1315 (Fed. Cir. 2005). Appellants explain that the preamble recitation of "an interconnect for a location dependent device" in claim 1 on appeal and the preamble recitation of "an interconnect for an attitude control device" in claim 1 of the copending Application imply a structural limitation and therefore must be treated as claim limitations (Br. 6). We agree that claim 1 on appeal requires a location dependent device. This interpretation is supported by the fact that the first paragraph of claim 1 refers back to and repeats the requirement that the interconnect comprises the location dependent device.

The first paragraph of claim 1 on appeal also requires at least one bus electrically connected to the location dependent device, so that the at least one bus signal can be transmitted to the location dependent device. If not so connected, the at least one bus cannot transmit a signal to the location dependent device. *See Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 950 (Fed. Cir. 2006), citing *In re Danly*, 263 F.2d 844, 847 (CCPA 1959) ("limiting claims to require that the claimed device actually be connected to

an alternating current source because, although the claims ‘do not positively recite a source of alternating current as an element of the claims,’ any other interpretation would render certain language in the claims meaningless”).

The second paragraph of claim 1 on appeal requires a plurality of electrical contacts, which is external to the location dependent device. The plurality of electrical contacts has a structure capable of providing a signal indicative of a physical location of the location dependent device when the location dependent device is installed. Representative structures where the plurality of electrical contacts is capable of providing a signal indicative of a physical location of the location dependent device (or attitude control device) when the location dependent device (or attitude control device) is installed are discussed on pages 9-11 and shown in Figures 3A to 3C of the Specification.

One such structure includes an arrangement where a first electrical contact (305) provides the reference voltage to second electrical contact(s) (310(1-6)) as illustrated in Figure 3A, while other of the second contacts have no connection to the first electrical contact (Spec. 9-10). Figure 3B illustrates an alternative structure, where a plurality of fuses (320) is formed intermediate the first electrical contact (305) and the second electrical contacts (310(1-6)) (Spec. 10-11). Figure 3C illustrates another alternative structure, where a circuit element (325), which includes a resistor, a capacitor, a voltage reference circuit, and the like, is arranged between a first electrical contact (330) and a second electrical contact (335) (Spec. 11). These alternative structures shown in Figures 3B and 3C correspond to claims 7, 15, and 16 on appeal, which were not rejected over prior art in the Final Rejection.

While not limited to the structures shown in Figures 3A to 3C or those claimed in claims 7, 15, and 16, we construe the claim 1 limitation, a plurality of contacts capable of providing a signal indicative of the physical location of the location dependent device when the location dependent device is installed, to define an arrangement of the plurality of contacts alone or a plurality of contacts in conjunction with other structures that collectively have the property of providing a signal indicative of a physical location of the location dependent device when the location dependent device is installed into the plurality of electrical contacts.

In conclusion, we construe claim 1 on appeal to define:

an interconnect comprising an location dependent device connected to a plurality of electrical contacts through a bus,  
the plurality of electrical contacts being external to the location dependent device, and  
the plurality of contacts having an arrangement of contacts alone or an arrangement of contacts with additional structure(s) capable of providing a signal indicative of a physical location of the location dependent device when the location dependent device is installed therein (*i.e.*, into the plurality of contacts).

#### *The § 101 Double Patenting Rejection*

Claims 1-11, 13-19, and 21 on appeal stand rejected under 35 U.S.C. § 101 as claiming the same invention as that of claims 1-14 and 18-25 of copending Application 10/679,074 (Ans. 2-3). We reverse this rejection.

As shown in the claim comparison on page 3 of this Decision, the differences between claim 1 on appeal and claim 1 of the copending

Application include the words “location dependent” of claim 1 on appeal being replaced with the words “attitude control” in claim 1 of the copending Application. The Examiner takes the position that “[t]he sole difference between the claim sets is the intended use” (Ans. 3). The Examiner argues that the intended use of the claimed inventions does not result in a structural difference between the invention claimed on appeal and that in the copending Application (Ans. 3). Therefore, the claim sets are not patentably distinct (Ans. 3).

As previously mentioned, we construe claim 1 on appeal to require an interconnect including a “location dependent device.” In a similar manner, we construe claim 1 of the copending Application to require an interconnect including an “attitude controlling device.” The Specification of the present application describes that location dependent devices include “[m]otors and/or sensors [that] are typically installed in various positions on a vehicle to detect location dependent events and/or perform location dependent actions” (Spec. 2). One example is a plurality of “sensors... deployed at a corresponding plurality of positions around an automobile in order to detect impacts at one or more of the plurality of positions” (e.g., sensor for air bags in an automobile) (Spec. 2). Another example of a location dependent device is an attitude control device, which deploys “a plurality of attitude control motors... at a plurality of locations on a guided missile” (e.g., “motors... used to change the heading of the guided missile so that the guided missile travels in a desired direction”) (Spec. 2). While a “location dependent device” includes both these examples, an “attitude control device” only includes the second example. Thus, a “location dependent device” has a meaning broader than an “attitude control device” that

includes an “attitude control device.” Based on these facts, a “location dependent device” is not the same as or is not identical to an “attitude control device.” Therefore, the claims on appeal and those of the copending Application do not define the "same invention" within the context of 35 U.S.C. § 101. *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Vogel*, 422 F.2d 438 (CCPA 1970).

Accordingly, we will not sustain the Examiner’s provisional rejection of independent claim 1 under § 101 nor dependent claims 2-11. Likewise, we will also not sustain the Examiner’s provisional rejection under § 101 of claims 13-19 and 21 for similar reasons.

#### *The Anticipation Rejection Over Rafert*

Claims 1 and 8-12 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Rafert (Ans. 3). We reverse this rejection.

The Examiner states that the claims on appeal do not positively claim a “location dependent device” (Ans. 6). In addition, the Examiner equates the cable (12) of Rafert to the “bus” claimed on appeal and cites a dictionary of electronics in support of this position (Ans. 6).

As mentioned above, we construe claim 1 on appeal to require structure including a “location dependent device.” Since the Examiner has not shown where Rafert teaches a location dependent device, the Examiner has not established a proper anticipation rejection. Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. *RCA Corp. v. App. Dig. Data Sys., Inc.*, 730

F.2d 1440, 1444 (Fed. Cir. 1984); *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1554 (Fed. Cir. 1983).

With respect to the bus limitation in the claims on appeal, it is understood by those skilled in the art that a bus includes a conductor or set of conductors used as a path for conveying information or power from one or more sources to one or more destinations. We refer to a dictionary definition of the word "bus." *Agfa Corp. v. Creo Products, Inc.*, 451 F.3d 1366, 1376 (Fed. Cir. 2006) (noting that general purpose dictionaries may be helpful when claim construction involves "little more than the application of widely accepted meaning of commonly understood words") (citation omitted).

"A bus is required to carry a number of different types of information, e.g. for data transference, for control and for addressing."<sup>2</sup> Unlike a point-to-point connection of the cable 12 proposed by Rafert, a bus can logically connect several peripherals over the same set of wires. Thus, the cable (12) as taught by Rafert is not a bus, as required in the claims on appeal.

Since the Examiner has not shown where Rafert teaches all structural elements recited in claim 1 on appeal, the Examiner has not established a *prima facie* case of anticipation. Therefore, the anticipation rejection of claim 1 is reversed. We will also reverse the anticipation rejection of claims 8-12 for similar reasons.

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<sup>2</sup> *Newnes Dictionary of Electronics* (4<sup>th</sup> Ed. 1999). Retrieved June 12, 2008, from <http://www.credoreference.com/entry/753961>.

*The Anticipation Rejection Over Takagi*

Claims 1, 13, and 21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Takagi (Ans. 4). We reverse this rejection.

The Examiner explains that Takagi comprises at least one bus (15, 16), as claimed in claim 1 on appeal, “adapted to provide at least one bus signal to the location dependent device” (Final Rej. 3-4). Appellants do not challenge this position.

Concerning the other limitations in claim 1 on appeal, we refer to Figures 7 and 8 of Takagi. These figures show container (22) containing sensor units (1) (Takagi, col. 4, ll. 27-32). Each sensor unit (1) contains a sensor (2) (Takagi, col. 2, ll. 40-42). The sensor (2) measures one or more physical values of the road surface condition (Takagi, col. 2, ll. 40-42). A differential GPS unit (20) may replace one sensor unit (1) (Takagi, col. 4, ll. 27-32 and 47-49). The differential GPS unit (20) “provides wireless transmission of global positioning data and signals related to the road surface condition as sensed by the sensor units” (1) (Takagi, col. 4, ll. 49-52).

The Examiner states that Takagi discloses “a plurality of electrical contacts (contacts of 20) external to the location dependent device” (1) “and capable of providing a signal indicative of a physical location of the location dependent device when the location dependent device is installed” (Ans. 4). The Examiner further explains that “it is inherently [sic] that GPS units to properly function should have contacts capable of providing a signal (23) indicative of a physical location [of the] location dependent device when the location dependent device is installed (Fig. 8 of Takagi et al)” (Ans. 6). We cannot agree.

An arrangement or structure of the plurality of electrical contacts of GPS unit (20) of Takagi, either alone or with additional structure, is not described or shown by Takagi. We cannot find within the teachings of Takagi nor does the Examiner explain how or why the plurality of electrical contacts of GPS unit (20) have any arrangement or structure capable of providing a signal, allegedly via the wireless signal (23), indicative of the physical location of the location dependent device (1) when the location dependent device (1) is installed into the plurality of electrical contacts, as required in claim 1 on appeal. "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (BPAI 1990) (emphasis in original). *See also In re Oelrich*, 666 F.2d 578, 581-82 (CCPA 1981). The Examiner provides no factual and/or technical reason associating the alleged plurality of electrical contacts of GPS unit (20) taught by Takagi with the location dependent device (1) and/or the wireless signal (23) as taught therein. Accordingly, we find that Takagi fails to teach or suggest (either explicitly or inherently) a plurality of contacts having an arrangement of contacts alone or an arrangement of contacts with additional structure(s) that is capable of providing a signal indicative of a physical location of the location dependent device when the location dependent device is installed therein, as required in claim 1 on appeal.

Furthermore, the Examiner's argument associating the contacts of GPS unit (20) with the location dependent device (1) of Takagi (Ans. 4) misconstrues claim 1 on appeal. As explained in the Claim Construction

section on page 7 of this Decision, claim 1 on appeal requires, among other things, that the location dependent device is connected to and installed in the plurality of electrical contacts. In other words, the location dependent device is connected to and installed in the plurality of electrical contacts for the location dependent device, not connected to and installed in contacts for another device, such as the contacts for GPS unit (20) as discussed in Takagi. Accordingly, the contacts of GPS unit (20) of Takagi cannot teach or be equated to the plurality of electrical contacts as required in the claims on appeal.

Since the Examiner has not shown where Takagi teaches all structural elements recited in claim 1 on appeal, the Examiner has not established a *prima facie* case of anticipation. Therefore, the anticipation rejection of claim 1 is reversed. We will also reverse the anticipation rejection of claims 13 and 21 for similar reasons.

*The Anticipation Rejection Over Card*

Claims 1-6, 8, 11, 13, 14, and 17-19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Card (Ans. 4). We reverse this rejection.

The Examiner argues that the teachings of Card disclose an interconnect comprising a bus (aL) with a plurality of contacts connecting it to a device MC' (Ans. 4), apparently referring to Figure 2 of Card. The Examiner dismisses the preamble and expressions in claim 1 on appeal including the words "capable of" and "adapted to," as being functional in nature and not positively reciting structural limitations (Ans. 7).

The Examiner incorrectly interprets claim 1 on appeal. As discussed in the above Claim Construction, we construe claim 1 to require an

interconnect comprising a location dependent device connected to a plurality of electrical contacts through a bus, the plurality of electrical contacts being external to the location dependent device, and the plurality of electrical contacts having an arrangement of contacts alone or an arrangement of contacts with additional structure(s) capable of providing a signal indicative of a physical location of the location dependent device when the location dependent device is installed therein.

Since the Examiner has not shown where Card teaches all structural elements recited in claim 1 on appeal, the Examiner has not established a *prima facie* case of anticipation. Therefore, the anticipation rejection of claim 1 is reversed. We will also reverse the anticipation rejection of claims 1-6, 8, 11, 13, 14, and 17-19 for similar reasons.

*The Obviousness Rejection Over Card*

Claims 4 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Card (Ans. 4). We reverse this rejection.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

Previously, we explained that the teachings of Card do not teach an interconnect comprising an location dependent device connected to a plurality of electrical contacts through a bus, the plurality of electrical contacts being external to the location dependent device, and the plurality of contacts having an arrangement of contacts alone or an arrangement of

contacts with additional structure(s) that is capable of providing a signal indicative of a physical location of the location dependent device when the location dependent device is installed therein, as required in claim 1 on appeal. In addition, the teachings of Card do not suggest these claimed structures. Due to these deficiencies in the teachings of Card, we cannot sustain the obviousness rejection.

Furthermore, on page 11 of the Appeal Brief, Appellants argue that:

Card is completely silent with regard to the *physical location* of the modules coupled to the bus. To the contrary, the device described by Card is only concerned with the *logical address* of the module and the *physical location* of the module is irrelevant. Card therefore fails to teach or suggest a plurality of contacts capable of providing a *signal indicative of a physical location of the location dependent device when the location dependent device is installed*, as set forth in claims 1 and 13. (Emphasis Appellants')

The Examiner concedes that the address described by Card may not indicate a physical address (Ans. 7) and does not explain how or why the aforesaid limitations would have been obvious in view of the teachings of Card. Without a factual basis in the record showing the obviousness of the limitations, the Examiner has failed to establish a *prima facie* case of obviousness. Accordingly, we cannot sustain the § 103(a) rejection of appealed claims 4 and 5 and any dependent claims based thereon. *See Graham*, 383 U.S. at 17.

## CONCLUSION

1. The Examiner's decision provisionally rejecting claims 1-11, 13-19, and 21 under 35 U.S.C § 101 as claiming the same invention as that of claims 1-14 and 18-25 of copending Application 10/679,074 is reversed.

2. The Examiner's decision rejecting claims 1 and 8-12 under 35 U.S.C. § 102(e) as being anticipated by Rafert is reversed.
3. The Examiner's decision rejecting claims 1, 13, and 21 under 35 U.S.C. § 102(b) as being anticipated by Takagi is reversed.
4. The Examiner's decision rejecting claims 1-6, 8, 11, 13, 14, and 17-19 under 35 U.S.C. § 102(b) as being anticipated by Card is reversed.
5. The Examiner's decision rejecting claims 4 and 5 under 35 U.S.C. § 103(a) as being unpatentable over Card is reversed.

Appeal 2008-0891  
Application 10/679,180

REVERSED

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